

Claim Listing This listing of claims will replace all prior versions and listings of claims in the application:

1 - 63: (cancelled)

64. (currently amended) A pET-15b expression vector comprising a first nucleic acid sequence encoding a peptide extension for enhancing the solubility and proper folding of a protein or polypeptide of interest, wherein the encoded peptide extension is selected from the group consisting of: Peptide T7C (SEQ ID NO: 5), Peptide T7B (SEQ ID NO: 6), Peptide T7B1 (SEQ ID NO: 7), Peptide T7B2 (SEQ ID NO: 8), Peptide T7B3 (SEQ ID NO: 9), Peptide T7B5 (SEQ ID NO: 11), Peptide T7B6 (SEQ ID NO: 12), Peptide T7B7 (SEQ ID NO: 13), Peptide T7B8 (SEQ ID NO: 14), Peptide T7B9 (SEQ ID NO: 15), Peptide T7B10 (SEQ ID NO: 16), Peptide T7B11 (SEQ ID NO: 17), Peptide T7B12 (SEQ ID NO: 18), Peptide T7B13 (SEQ ID NO: 19), Peptide T7A1 (SEQ ID NO: 21), Peptide T7A2 (SEQ ID NO: 22), Peptide T7A3 (SEQ ID NO: 23), Peptide T7A4 (SEQ ID NO: 24) and Peptide T7A5 (SEQ ID NO: 25), the expression vector further comprising a multiple cloning site for inserting, in-frame with said first nucleic acid sequence, a second nucleic acid sequence encoding said protein or polypeptide of interest, said

- 20 protein or polypeptide having a carboxyl- and an amino-terminus, wherein expression of the first and second nucleic acid sequences yields a fusion protein consisting of the encoded peptide extension fused to the carboxyl-terminus of the protein or polypeptide of interest, ~~and wherein the protein or polypeptide of interest exhibits poor solubility and/or improper folding when expressed in the absence of fusion to said peptide extension.~~

65 - 100 (cancelled)

101. (new) A bacterial expression vector for enhancing the solubility and proper folding of an encoded protein or polypeptide of interest, which protein or polypeptide comprises an amino and a carboxyl terminus, said vector comprising a first nucleic acid sequence encoding a peptide extension, which peptide extension is selected from the group consisting of: Peptide T7C (SEQ ID NO: 5), Peptide T7B (SEQ ID NO: 6), Peptide T7B1 (SEQ ID NO: 7), Peptide T7B2 (SEQ ID NO: 8), Peptide T7B3 (SEQ ID NO: 9), Peptide
10 T7B5 (SEQ ID NO: 11), Peptide T7B6 (SEQ ID NO: 12), Peptide T7B7 (SEQ ID NO: 13), Peptide T7B8 (SEQ ID NO: 14), Peptide T7B9 (SEQ ID NO: 15), Peptide T7B10 (SEQ ID NO: 16), Peptide T7B11 (SEQ ID NO: 17), Peptide T7B12 (SEQ ID NO:

18), Peptide T7B13 (SEQ ID NO: 19), Peptide T7A1 (SEQ ID
NO: 21), Peptide T7A2 (SEQ ID NO: 22), Peptide T7A3 (SEQ ID
NO: 23), Peptide T7A4 (SEQ ID NO: 24) and Peptide T7A5 (SEQ
ID NO: 25), a multiple cloning site in which a second
nucleic acid sequence encoding the protein or polypeptide
of interest may be inserted in frame with said first
20 nucleic acid sequence, and wherein expression of the first
and second nucleic acid sequences under physiological
conditions yields a fusion protein consisting of the
encoded peptide extension fused to the carboxyl terminus of
the protein or polypeptide of interest.

102. (new) The bacterial expression vector according to
Claim 101 wherein the bacterial vector is a pET expression
vector.

103. (new) The pET expression vector according to Claim
102 where in the pET vector is pET 15b.